Claims

What is claimed is:

1.   A method for controlling service access to a backbone network comprising the steps of:

(a)   providing an internet protocol backbone network having a plurality of access points that include traffic control devices;

(b)   dividing the users of the network provided in step (a) into at least two service classes that include one class that has a lesser value than the other class;

(c)   identifying the usage level of the lower service class;

(d)   comparing the usage level of the lesser service class identified in step (c) to the capacity of the backbone network; and

(e)   adjusting the traffic control devices at the access points to the backbone network for the lesser service class to allow sufficient capacity in the network for transport of messages for the other class.

2.   The method according to Claim 1 wherein the identification of the usage level in step (c) includes aggregation of the message flow over the backbone network.

3.   The method according to Claim 1 wherein the identification of the usage level in step (c) is determined by examination of the traffic level connecting the origination address range to the destination address range for the message flow over the backbone network.

4.   The method according to Claim 1 wherein the identification of the usage level in step (c) is determined by examination of the backbone network

links connecting the origination addresses to the destination addresses for the message flow over the backbone network.

5.   The method according to claim 4 wherein the usage level in step (c) is determined by

(c1)   collecting and analyzing the occupancy data of the backbone links to determine path occupancy levels by class of service;

(c2)   determining the amount of occupancy being utilized by the lesser service class;

(c3)   subtracting the amount of occupancy being utilized by the lesser service class from the available backbone network capacity; and

(c4)   comparing the resulting difference from step (c3) to the capacity required to provide service to the other classes of service.

6.   The method according to claim 5 wherein the amount of occupancy being used by the lesser service class is statistically determined in step c(2).

7.   The method according to Claim 1 wherein a backbone network tool is utilized in step (c) to identify the usage level.

8.   The method according to Claim 1 wherein the lesser service class is assigned a billing rate that is less than the billing rates for the other service classes.

9.   The method according to Claim 5 wherein in step (e) the traffic control devices are adjusted to reduce the access to the backbone internet for the lesser service class when the traffic load from the other classes increases.

10. The method according to Claim 5 wherein in step (e) the traffic control devices are adjusted to increase the access to the backbone internet for the lesser service class when the traffic load from the other classes decreases.

11. The method according to Claim 1 wherein the lesser service class includes messages that have been selectively degraded.

12. The method according to Claim 11 wherein the lesser service class is assigned a billing rate that is less than the billing rates for the other service classes.

13. The method according to claim 1 wherein the traffic control devices include at least one traffic shaper.

14. The method according to claim 14 further including identification of the messages belonging to other classes before entry into the traffic shaper.

15. The method according to claim 1 wherein the traffic control devices include at least one media gateway.

16. The method according to claim 15 further including identification of the messages belonging to other classes before entry into the media gateway.